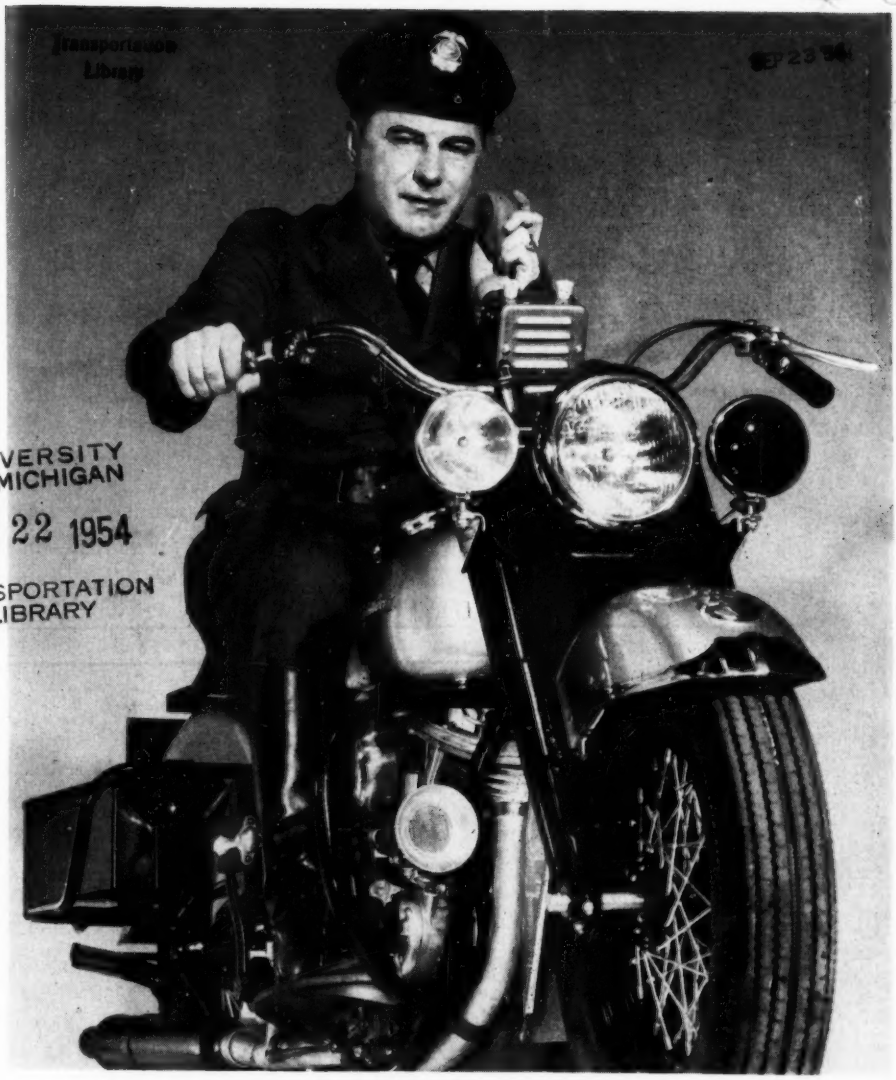
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Use of Solo Motorcycles
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TRAFFIC DIGEST & Review

THE TRAFFIC INSTITUTE · NORTHWESTERN UNIVERSITY

The

Traffic Digest & Review

OF THE TRAFFIC INSTITUTE, NORTHWESTERN UNIVERSITY

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This publication is produced to serve as a source of information and a medium for the expression of responsible opinion in the street and highway traffic field. From time to time there will appear herein expressions of opinion that do not necessarily reflect official Traffic Institute policy.

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Institute and IACP Traffic Division Survey On

Use of Solo Motorcycles

RESULTS of a survey on the use of solo motorcycles by municipal police agencies in the United States have just been announced by the Traffic Institute, Northwestern University, and the Traffic Division of the International Association of Chiefs of Police.

Believed to be the most complete study of its type ever made, the survey covered police departments in 32 cities of more than 100,000 population and the Port of New York Authority.

Questionnaires were sent to 39 departments, and the following 33 replied:

Memphis, Tenn., Milwaukee, Wis., Houston, Dallas, Fort Worth, and Corpus Christi, Tex., San Diego, San Francisco, Oakland, and Los Angeles, Calif., Omaha, Neb., New York and Buffalo, N. Y., Miami, Fla., Oklahoma City, Okla., Washington, D. C., Indianapolis, Ind., Hartford, Conn., Philadelphia, Pa., Chicago, Ill., Seattle, Wash., Birmingham, Ala., Richmond, Va., Cleveland and Columbus, Ohio, St. Louis and Kansas City, Mo., Baltimore, Md., Denver, Colo., Portland, Ore., Atlanta, Ga., Minneapolis, Minn., and the Port of New York Authority.

"The Institute and IACP Traffic Division have for some time been getting requests for solo motorcycle information which was nowhere available," said George C. Bowers, director of field service, who conducted the questionnaire survey. "The questionnaire was drawn up principally from questions most frequently asked."

Among the many interesting points revealed in the study were these: Police officer personal-injury motorcycle accidents per 100 million vehicle miles compared favorably with the national urban motor vehicle personal-injury rate; motorcycle officers write from 20 to 50 per cent more citations than traffic officers operating in police cars.

Summaries of the survey replies are given below.

Number of Solo Motorcycles Used

Los Angeles, with 371, and New York City, with 352, reported the greatest number of solo motorcycles in use. Of the other departments, the number in use was in almost direct ratio to population and size of geographic patrol area. Richmond, with 2, reported the smallest number.

Percentage of Time Used in Non-Traffic Activity

Fifty-eight per cent of the departments reported that their solo motorcycles are used exclusively for traffic law enforcement. The remaining 42 per cent reported varied percentages of assignment times in non-traffic activity. This ranged from 30 per cent for Houston to 1 per cent for the

Port of New York Authority. The average time spent on non-traffic activities by all reporting cities was 10 per cent.

Are Motorcycles Assigned to Exclusive Use of One Officer?

Ninety per cent of the reporting departments stated that motorcycles are assigned to the exclusive use of individual officers. The remaining 10 per cent do not assign motorcycles on a permanent basis. Cleveland, which uses the two-platoon system, assigns a motorcycle to two men, one from each platoon. Houston and Corpus Christi reported that their officers own and maintain their solo motorcycles, for which they are paid $60 and $75 a month, respectively.

Are Officers Permitted to Ride Solo Motorcycles To and From Work?

In 55 per cent of the reporting departments, individual officers are permitted to ride their motorcycles to and from work.

During What Hours of the Day are Motorcycles Used?

Thirty-three per cent of the departments reported working hours of 7 a.m. to 2. a.m.; 23 per cent, 8 a.m. to 12 midnight; 20 per cent, 24 hours daily; 16 per cent, 7 a.m. to 1 a.m., and 8 per cent, daylight hours only.

Do Officers Ride Singly or in Pairs?

Fifty-two per cent reported that their solo motorcycle men work singly all the time, and the remainder said their men are paired during hours of darkness except for Memphis, Tenn., which pairs its men all the time.

Do Motorcycle Officers Receive Additional Compensation?

On this question the departments were about equally divided—51 per cent stated that no additional compensation is given to motorcycle officers, and 49 per cent replied affirmatively. The average additional compensation given by the latter group is $15 per month. The high is $32.50 per month in Washington, D. C., and the low, $5 per month in Dallas. (Houston and Corpus Christi were not included. In those cities, as stated earlier, officers own their motorcycles and are compensated for maintenance and depreciation.)

"Grounding" of Solo Motorcycles Because of Inclement Weather

For purposes of comparison, the United States was divided at the 37 degree parallel. Departments in cities above this line average 82 days per year when motorcycles cannot be used because of inclement weather; below the line, the average is 38 days per year.

During Inclement Weather are Motorcycle Officers Assigned to Cars?

Seventy-eight per cent of the departments reported that motorcycle officers are assigned to cars for traffic law enforcement during inclement weather. In most instances cars are assigned 100 per cent to traffic law enforcement, but it was indicated that there are not sufficient cars available for all "grounded" motorcycle men and that some are assigned to

foot patrol and intersection control. Interestingly, Houston, the Port of New York Authority, Oakland, Seattle, Denver, Colo., Milwaukee, and Dallas, have the services of a central motor pool available in such cases.

Is the Solo Motorcycle More Effective Than an Automobile?

Eighty-seven per cent of the departments stated that they favor the solo motorcycle for traffic law enforcement. The following reasons were cited:

1. Maneuverability and mobility.
2. Economy of operation and maintenance.
3. Psychological effect on the motorist.
3. Quick acceleration and higher top speed.
5. Short turning radius.
6. Better "halo" effect.
7. Effective for sports events, parades, and escorts.
8. Utilized to check parking meters.
9. Can travel through much less space in congested areas.

Thirteen per cent of the departments favored the automobile. These reasons were given:

1. Safer to operate.
2. Fewer injuries.
3. Can be used 24 hours a day, seven days a week.
4. Bad climatic conditions make automobile more suitable.
5. Unmarked cars have proved more effective.

Four of the larger cities gave the following replies to this question:

"We have found one-man cars more effective."

"An automobile can be used 24 hours a day, seven days a week."

"We intend to buy no more motorcycles."

"The traffic problem should be evaluated and the appropriate equipment assigned for the particular mission. Each type has a use which is peculiar to its design."

If Your Budget Permitted, Could Your Department Use More Cycles?

Thirty-three per cent of the departments replied that they would not increase their motorcycle complement; 67 per cent said they would—on an average of 42 additional cycles per department. These increases ranged from 150 for New York City to 100 for St. Louis, Dallas, and Los Angeles, and then decreased proportionately with the size of the city down to a low of four for Hartford and three for Fort Worth.

Assigned Motorcycles and Personal-Injury Accidents, 1953

Replies indicated that in 1953 the average number of personal-injury accidents per motorcycle used by the reporting departments was .31. The range of accidents per motorcycle was from .003 to 1.10.

Accident Severity on Solo Motorcycles

All departments considered, the average injury accident resulted in a loss of 172 man hours. On an individual department basis, the average varied from a low of 12 lost man hours (two accidents) to a high of 952 lost man hours (one accident) per accident.

Motorcycle Exposure Rates per Miles Patrolled

Mileage accident rates for solo motorcycles compare favorably with the national mileage rates for automobile personal-injury accidents. The national mileage rate was computed for urban areas, since the reporting cities are in that category. The rate was computed on exposure to 100 million miles of vehicle travel.

National rate (personal-injuries per 100 million vehicle miles.....	305
Average solo motorcycle rate computed for reporting cities.....	302

Fifty-six per cent of the reporting departments were under the national average, with the range being from 63 to 920 personal injuries per 100 million vehicle miles.

Do Motorcycle Officers Receive Special Training?

Eighty-four per cent of the departments reported that they give specialized training for solo motorcycle officers. The reported length of training varied from 30 hours to 90 days. It was not possible to determine the specific type of training given by all of the cities. However, it appeared to range from "riding with an experienced officer" to intensive training in all phases of riding.

Do You Have Written Policies Governing the Selection of Personnel to Ride Solo Motorcycles?

Fifty-six per cent of the departments reported that they have such policies; 44 per cent have no set procedure or policies. Sixty-two per cent stated they have written policies for the assignment of solo motorcycle personnel during inclement weather. Fifty-three per cent reported written policies on the use of solo motorcycles while off-duty. Sixty-two per cent said they have written policies on mechanical maintenance of solo motorcycles.

Do You Use Mechanical or Electronic Speed Measuring Devices in the Apprehension of Speeders?

Forty-four per cent of the departments indicated the use of such devices. Seventy per cent of the departments using speed measuring devices indicated the use of radar equipment. Cleveland uses six radar devices, whereas most reporting departments have only one machine. The remaining 30 per cent of the departments utilize some form of mechanical or electrical measuring device.

What is the Average Number (per day or per month) of Moving Hazardous Violation Arrests per Officer?

(Fifty per cent of the departments reported per day averages, and the remaining 50 per cent per month averages,)

	Those reporting Av. per day	*Those reporting Av. per month*
Officer on Solo Motorcycle	5.87	79
Motorcycle officer in car	4.92	64.3
Traffic Officer working full-time in car	4.81	51
Non-traffic officer working full-time in car	1.01	15

* * *

WE SALUTE SAN BERNARDINO COUNTY!

The largest single order for subscriptions to the *Traffic Digest & Review* was received recently from the County of San Bernardino, Calif. The County ordered one-year subscriptions for each of its 29 justices of the peace.

* * *

Announce Driver Education Award Winners

Awards honoring the quality of driver education efforts have been made to 16 states in the Seventh Annual National High School Driver Education Award Program.

Judged outstanding among the 48 states and the District of Columbia were Massachusetts, which received an Award of Excellence; Arizona, California, Connecticut, Delaware, Oklahoma, and New York, each of which was given an Award of Honor, and Michigan, Minnesota, Nevada, New Jersey, Ohio, Pennsylvania, Vermont, Virginia, and Wisconsin, all recipients of Awards of Merit.

Thomas N. Boate, manager of the Accident Prevention Department of the Association of Casualty and Surety Companies, which sponsors the program, said the awards were made on the basis of such factors as percentage of students enrolled in driver courses, number of hours of classroom work, number of hours of practice driving, educational background of teachers, and percentage of high schools in which driver education is taught.

The awards will be presented to the governors of the winning states.

Physical and Mental Disability Problems in a

Post License Control Program

by
Kenneth E. Brown
Driver Improvement Analyst
California Department of Motor Vehicles

Public opinion would generally support the policy of refusing to issue a driver's license to anyone who, due to physical, emotional or mental problems, can be shown to be a potentially dangerous driver.

The driver's license examination can provide a screening process to disqualify applicants with inadequate knowledge of traffic laws, or who demonstrate in a driving test, unsafe driving practices or lack of skill. During the examining process, obvious physical and mental defects may be recognized. Less obvious disabilities, such as epilepsy, chronic alcoholism, narcotic addiction or mental illness, are not so easily identified in the routine examination.

There is need, therefore, for the motor vehicle administrator to develop a post license control program. Those dangerous drivers who were not identified in the first examination must now be screened. The unsafe acts of drivers which cause traffic collisions are often due to incompetence or negligence, but it must also be recognized that physical and mental factors play an important role. The negligent operator may be identified by his performance as revealed in his violation and accident record. The driver with physical, mental or emotional problems may also be discovered in this same way. In addition, it is possible to adopt methods and procedures to supplement driver record analysis, that will serve to identify these drivers before they become involved in an accident, or even have a recorded traffic violation.

Disabilities Which Affect Driving

Whenever a driver is subject to chronic symptoms which cause him to lose consciousness or which impair his normal and reasonable control of a motor vehicle, his ability to drive safely is open to question.

The convulsive disorders are difficult problems to diagnose. This is due to the variety of causes for symptoms which are a result of impairment of the nervous system. A brain tumor, brain damage following a serious head injury, a low blood sugar or a focal point of infection can be the cause of seizures.

In many instances, the driver will not seek medical help for diagnosis or treatment. Even after a diagnosis is established, the driver may continue to operate a motor vehicle because of his confidence that he will

always have an adequate warning of an impending seizure or that the attacks will continue to maintain their pattern of occurring only during sleep. He also may have assurance, although unwarranted, that the treatment prescribed will immediately provide complete control of symptoms. Drivers who are the victims of such an illness should be brought to the attention of the licensing agency as early as possible, so that in the interest of public safety, there will be a suspension or revocation of the driving privilege. Reinstatement of the license could be given favorable consideration when medical evidence is submitted that diagnosis and adequate control of symptoms has been established.

Legislation in California has been enacted which requires the medical profession to report such cases to the State Department of Public Health. This results in the prompt investigation by the Department of Motor Vehicles of all cases reported. This type of law does not necessarily guarantee that the majority of such cases will become immediately known to the licensing agency. The medical profession will soon develop confidence, however, in the fair and impartial action of the administrator, if suspension or revocation of the driving privilege is based on medical advice, rather than an inflexible policy in which the diagnosis is the only factor given consideration.

There are numerous other physical disabilities which are either temporary or chronic in nature. Until adequate control of symptoms is achieved, they also constitute a driving problem. These will include certain types of coronary cases, an uncontrolled diabetic condition causing insulin reactions, diseases which involve the central nervous system, and all disabilities which affect control of a motor vehicle due to symptoms of paralysis, poor coordination or impairment of judgment. Addiction to alcohol or narcotic drugs is also a major problem because of the temporary or permanent disabling effect on mind or body.

Identification and Investigation of Disabilities

In addition to those investigations which may be initiated through a public health reporting law, there are various other sources of information available to the administrator. The public records of psychopathic hospitals and courts, records of arrest for intoxication, the reporting of special incidents by enforcement agencies, wherein drivers appear to have some physical or mental disability, and the application for a license may be the starting point of an investigation.

Upon the receipt of information from any of the above, including accident and violation records, trained personnel, skilled in the analysis of causative factors of accidents and violations, should then conduct the necessary investigation. Their evaluation of the information available in medical records, doctors' reports, enforcement records, and evidence submitted by the driver in the form of testimony may then be made avail-

able for the administrator so that he may make a decision whether to take the legal action of suspension, revocation or probation.

Methods of Post License Control

As in the case of the negligent operator, the placing on probation of the driver who has a physical or mental problem may be entirely adequate. In addition to the re-examination by an examiner at suitable intervals, the conditions of probation imposed may include the requirements that the driver remain under medical supervision; that he follow exactly treatment prescribed; and that periodic reports of his progress be submitted by his physician at suitable intervals, following examination. The nature of the diagnosis, history of the illness, reliability of the driver and many other factors must be considered when determining whether probation can be used as the most effective measure.

There are many cases when outright revocation is indicated due to the nature of the illness, and the difficulty to be expected in bringing about a control of the symptoms. The commitment of a driver by court order to a hospital or sanitarium with a diagnosis of mental illness, chronic alcoholism or drug addiction, would justify the revocation of his driving privilege pending recovery from such illness. Diabetes, on the other hand, if the condition were well controlled for a long period of time, would require no action. A history of recent insulin reaction might justify probation, with medical supervision conditions.

Conclusions

There are many unsafe acts of drivers caused by illness rather than negligence. The post license control program can provide more effective screening procedures than the original driver's license examination. The adoption or expansion of such a program, will be more than justified by the results achieved.

* * *

Traffic Direction Poster Available From AAA Clubs

Posters on "Traffic Direction—Manual Control," excellent for police training purposes, are available without charge from local affiliates of the American Automobile Association.

The posters are 17" x 22" in size and give the signals and gestures recommended for police traffic direction by the Traffic Division of the International Association of Chiefs of Police and the Traffic Institute of Northwestern University.

The signals and gestures shown on the AAA poster have been adapted from the basic training manual, "Signals and Gestures," (No. 333) published by and available from the Traffic Institute, Northwestern University, 1704 Judson Ave., Evanston, Ill.

Ohio Evaluates Its Driver Education Program

A program aimed at evaluating and encouraging expansion of driver education in high schools and colleges was launched recently by the Ohio Department of Highway Safety.

With the cooperation of the State Highway Patrol, sheriff's departments, city police departments, and all other law enforcement agencies as well as deputy registrars of the Bureau of Motor Vehicles, the Safety Department will be able to record the value of driver training in schools.

Director U. C. Felty of the Safety Department said, "Driver education conducted in the schools is an extremely important phase of traffic safety and the Ohio State Highway Patrol has cooperated with the Department of Education in this program since its inception in 1941."

However, the director pointed out that although it is "definitely believed the program is helpful in making better drivers, there has never been any way of evaluating it."

Under the program, every driver who completes or has completed a driver education course accredited by the Department of Education will have a special stamp placed on his driver's license. The stamp will carry the words "Department of Education Driver Training Completed."

All persons who have completed an accredited course are asked to visit any State Patrol Post or deputy registrar and present the "certificate of proficiency" issued to those who successfully completed the course. The patrolman or registrar on duty will stamp the operator's license.

Patrolmen, sheriff's deputies and city police have been requested to note on accident reports anyone involved in an accident who has such a stamp on his license. Cities over 5,000 which do not submit actual accident reports to the Department will be asked to include the information in their regular summaries.

There are more than 550 high schools and six colleges in Ohio which have the driver education program. Since the program was inaugurated, 132,554 students have completed the course.

"We feel that these people are better drivers because of this training," the director said, "but we want to make a careful survey and expand the program to include eventually every high school and college in the state."

Dr. Clyde Hissong, director of the Department of Education, said he believed the driver education program, which has greatly expanded since 1941, was definitely making better drivers of students.

* * *

When a man's knowledge is not in order, the more of it he has, the greater will be his confusion.

—*Herbert Spencer*

Staff and Supporting Functions

(Editor's note: This is the third part of a chapter on Traffic Supervision developed by the Traffic Institute for the International City Managers' Association for its forthcoming text on Municipal Police Administration. This text forms the basis of the police administrative training program of the Institute for Training in Municipal Administration conducted by the ICMA since 1934. Franklin M. Kreml, director of the Traffic Institute, and George Larsen, Jr., associate editor of the Traffic Digest and Review *and member of the Institute's training staff, collaborated in the preparation of the Traffic Supervision chapter. Additional sections of the chapter will be published in future issues of this magazine.)*

Staff Functions Which Aid the Three Main Line Functions.

WE HAVE previously examined the three principal line activities of the police in providing traffic service to a community—that is, the three main ways in which the police directly attack their objectives of reducing accidents and congestion—accident investigation, traffic direction, and traffic law enforcement. In order to perform these activities properly, the police must do many things which go beyond the routine staff services needed to operate the department. Let us look at some of these special staff services.

First, the police must give special attention to *traffic records*. The kinds of facts needed for the traffic program are quite different from the kinds of facts needed for general police operations. The practice in many departments of burying traffic data in the general mass of departmental records should be reviewed and revised to make possible the best use of this information. The various clerical processes, such as indexing, tabulating and filing, are much the same for traffic reports as for reports of other police activity, but the special purposes and uses of traffic data demand that they be given special attention by trained people. Otherwise such data will end up as mere compilations of facts and activities.

In order to get sufficient information, or information of the right type, it may often be necessary to develop special reporting procedures or forms so that the accident investigators and enforcement officers will report the special facts needed. Too, special localized problems may require that special studies be made of certain locations or situations, such as compliance checks and collision diagrams, or similar field studies ordinarily thought of as being in the realm of engineering.

At all stages in their processing and routing, traffic reports and data must be made to serve useful and productive purposes. For example, in

the indexing process, usually done in order to facilitate locating a given report or case, the indexing of traffic reports may be incorporated with the "persons identification" process, to accumulate for each person involved in a traffic case a continuous and complete record of his traffic history in the community. In taking off, or tabulating, the many classes of information contained in traffic reports, we must keep in mind the many uses such data can serve in the overall traffic program, and make certain that we have collected the best available and most appropriate data needed by the engineers, educators, courts, driver license administrators, and public information specialists.

The compilation of traffic data is useful only if it helps to provide answers to problems and guides to programs of action to reduce accidents and congestion. The key activity in making traffic data useful is the *analysis of traffic records*. The work of the analyst begins largely where the work of the statistician ends. The analyst must examine and study all pertinent facts in all their relationships, to traffic problems and traffic activities of the police. He must look not only for the nature of problems, but must seek the explanation of why and how the problems came to be. This must be followed by developing possible solutions to the problems in terms of police activity. He has the critical job of evaluation, and of suggesting or recommending courses of action to keep the traffic program directed toward its objectives. The analyst, therefore, must be skilled not only in statistical methods and interpretations, but must have a sound and comprehensive knowledge of traffic programs and of police traffic operations in the field.

The men who are to have any part in the traffic program must be selected properly and given adequate *traffic training*. An officer selected for traffic work must first of all be a good police officer. He will be called upon frequently to do general police duty in all sorts of emergencies. He must have a conviction that traffic duty is in no sense less important or essential to the community than is general policing; he must have stamina to withstand trying duty in all kinds of weather, and he must have patience to maintain control in vexing situations.

The traffic administrator must prepare these men for traffic duty by providing a specific traffic training program. It is not enough that patrolmen be trained in techniques of accident investigation, traffic direction, and enforcement in a general departmental training program, although the rudiments of these must be included for all recruits. Even at the recruit level men must be trained in the purposes of these activities—their general as well as specific objectives—and how such activities can be made to produce the maximum return for the time and effort expended.

Real traffic training will require first of all enough time devoted to the study of specific traffic subjects to give the officer an adequate basis of understanding. The IACP suggests that at the operational level there

should be a minimum of 80 hours for accident investigators, 70 hours for enforcement officers, and 40 hours for traffic direction officers. In addition, officers having supervisory responsibilities need another 70 hours of training in order to understand the special supervisory problems of traffic operations. Some retraining of all traffic personnel must be done at least every two years, and should seek to re-emphasize the essentials as well as to correct all deficiencies noted. To be properly carried into field operations, this training must be supplemented by day-to-day supervision and guidance by officers thoroughly trained and qualified in traffic work.

Proper attention must be given to all areas of information the officer will need to do his best job in traffic. These are: (1) laws and ordinances dealing with traffic; their practical application and interpretations; (2) principles of *why* the job is important and *why* it must be done in an effective *way*; (3) policies of the administration which will guide all men alike in situations not covered by law or order; (4) procedures which must be followed in given situations; (5) techniques of traffic direction, accident investigation, and patrol; (6) general personal upgrading in conduct, ethics, understanding human behavior, tactics, attitudes, court testimony, and similar matters; and (7) expression through various accident and activity reports, testifying in court, and dealing with the public.

Not all of this can be given the recruit. At this stage the new officer is so occupied in acquiring new knowledge that the importance of traffic operations may be missed. Once he begins to settle into his job, his real traffic training must be commenced. It is far more important to make him a good all-around policeman during his first year or so than to shape his service in any one direction.

Because of the growing importance of the traffic function it is increasingly important that special and advanced training be given those who are to play important parts in the program. This applies particularly to the analyst and to specialized units, and to the supervisory and command personnel who will put the program in operation.

There are many ways to get this training even if a department doesn't have enough men to be trained, or the necessary facilities, to warrant setting up its own detailed and extended training operations. Neighboring communities are banding together and cooperating to fill their traffic training needs. Many states now open their police training facilities to city officers, and some large cities are doing likewise for their smaller neighbors. The Traffic Division of IACP will provide on request specific training to departments or groups of departments at cost. Universities in many parts of the country are offering traffic training, either as part of their regular programs or in cooperation with such agencies as the Traffic Division of IACP and The Traffic Institute of Northwestern University. Such regional training opportunities are increasing each year, in depth and variety of training, as well as in the number of courses offered.

In recent years specialized traffic training opportunities have been vastly increased, not only through local and regional programs, but through formal training courses at various traffic training centers. The Traffic Institute, for example, offers a nine-month program in traffic police administration. The Kemper Foundation for Traffic Safety provides grants-in-aid to police agencies to enable them to send qualified officers for this comprehensive program of traffic training. This is supplemented by one to three-week unit courses in records, chemical tests, personnel management, accident investigation, enforcement, traffic flow regulation and other subjects. In some areas automobile clubs and local traffic safety associations are providing funds to aid police departments obtain this kind of training for their men.

In addition, the police must avail themselves of *technical aids or services* developed by modern science if they are to realize their full potential. We refer specifically to such important tools as chemical tests for intoxication, not as a substitute for sound investigative techniques and objective reaction and behavior tests, but to supplement such investigation and testing, or to put the "clincher" on many cases which might otherwise be impossible to prove. Care in selecting the right kind of testing techniques or devices is extremely important, but of even greater importance are the proper training of personnel to use the tests or supervise their use and the indoctrination of public and courts in their acceptance. Nothing but failure awaits the department or the administrator buying chemical testing devices in the expectation that the devices themselves will get convictions in drunken driving cases. The improper or inconsiderate use of such devices or techniques will not only backfire against the individual or department so using them, but may cause public reaction against chemical testing in general. Such instances have happened in large and otherwise progressive cities, and must be guarded against. Other special scientific aids include tests for the detection of deception—the so-called "lie detector" and other "truth" tests—which can have important application in hit-and-run investigations, and the many tests and techniques developed by the physical sciences for the examination and identification of physical materials.

It isn't necessary or recommended that police departments establish or develop full-scale scientific laboratories or hire expensive technicians to avail themselves of such services. Almost every community has qualified technicians serving in education, industry, medicine or general research, who are usually ready and able to assist the police in their respective fields. There are in most large cities extensive laboratories available to neighboring communities, in addition to central facilities provided by state and federal governments. But it is recommended that the police administrator investigate ways in which scientific or technical aids can improve traffic service, and to provide the leadership, the training, and

the supervision needed to enable his department to take advantage of the many scientific devices and techniques available.

Supporting or "Cooperative" Traffic Activities.

Thus far we have examined the basic traffic activities of the police, as well as some of the more important of the special staff services needed. But these still are not enough. In order to be fully effective, traffic supervision needs the support of certain other activities. Some of these, which are ordinarily the duties of agencies other than the police, may have to be assumed as part of the police function if the other "responsible" agencies fail to perform them. Let us look at some of these.

1. Certain kinds of traffic engineering. We refer here not to the broad problems of research, technical design or construction, or physical maintenance of highways and control facilities, which are in the province of traffic engineering, but to those activities of an engineering character which the police may be qualified to perform; examples are such services as determining parking requirements and restrictions, planning special traffic movements in connection with emergency or temporary conditions, and the placement and maintenance of traffic signs and other control devices.

We believe that *all* traffic engineering services should be provided by the engineering agency. If the community cannot afford a full-time qualified traffic engineer, then some junior member of the city engineer's staff should be trained and assigned to provide them, or a part-time or cooperative arrangement can be worked out between neighboring cities or among a group of cities. But enforcement and traffic flow cannot function without some minimum engineering controls, and if no one else is going to provide them, the police must. In general, police participation in the engineering function should be limited to furnishing the basic data on accidents and enforcement to assist the engineer in his work, and perhaps the assignment of someone to maintain a continuing working liaison with the engineer's office. If city administrators cannot recognize the need for separate attention to the police and engineering functions, then police management must take the initiative in working towards that end.

2. Educational activities. Certainly there is an important kind and amount of safety education in all traffic supervisory activities performed by the police. But this is an expensive as well as a haphazard form of education and cannot take the place of a sound, planned traffic educational program in a community.

It is not the responsibility of the police to provide elementary training to the public in safe walking habits; nor are the police responsible to provide pre-driver training in any of its parts to would-be drivers. The jobs of providing the community with general information on safe driving and safe walking practices, and of re-training drivers with known defects, are

again not part of the official duties of the police. All these are the responsibility of other agencies and the community as a whole, in line with the responsibility to develop good citizenship, ethics, morals, and practical preparation for living. But, as in the case of minimum engineering controls, someone must provide for a minimum of general education and information if the police job of traffic supervision is not to be overwhelmed before it can be started.

Ordinarily the police will be expected to cooperate in safety education, lending name, facilities, and personnel to assist in developing the program and bringing it to the community. Such cooperation cannot be allowed to develop into anything approaching full responsibility, both because the police basically are not qualified as educators, and because the police have other urgent duties requiring their attention.

Much of the reluctance of police officials to surrender control or influence in the areas of safety education and traffic engineering undoubtedly stems from a faulty concept of the "Three E's." At a time when there was little traffic engineering, as we know it today, and when safety education was beginning to be recognized as essential to a traffic program, the police took a major part in promoting this philosophy of traffic control. Instead of recognizing the concept for what it was, the *division* of responsibility, many police and traffic administrators sought to adopt the three E's as the basis of the police traffic program. When the educational factor of police traffic work is allowed to be the dominating objective, the true function of enforcement loses its meaning, and enforcement programs lose their vigor and effectiveness.

3. Activities relating to prosecution of violators. It would serve little purpose to detect and apprehend traffic law violators if the prosecution of such violators would be neglected. Prosecution is more than calling cases in court and naming charges which have been filed. It involves careful examination of the facts for and against the accused, examination and interpretation of the evidence to support those facts, placing of proper charges, and marshaling of witnesses, before the case is heard in court.

As defined by the IACP, the police part of traffic law enforcement carries over into assisting the prosecution of offenders by: "Securing statements from witnesses, filing complaints, summarizing information available for prosecution, serving warrants for those who fail to appear, and testifying in court and other hearings."

Clearly the prosecution of cases is a job belonging to a designated and qualified prosecuting officer, with the police serving only to support and assist him. Frequently the prosecutor will have special assistants, or investigators who will assist him, but this in no way relieves the police of responsibility to carry an investigation through to its completion, to place appropriate and supportable charges, and to have all information and evidence ready for use.

Institute Book Review

A Psychological Approach to Accidents. By *Norman Robert Lykes.* Vantage Press, Inc., New York. 1954. 138 pages. $2.95.

Reviewed by

James Stannard Baker
Director of Research and Development
The Traffic Institute

The author of this book takes the trite slogan, "Accidents don't happen; they are caused," and gives it a new twist. Mr. Lykes makes the slogan come out, "Accidents don't happen; they are intended!" This makes stimulating reading and strongly suggests the nativity of a new "ism" in the traffic safety field.

The author has chosen to write a difficult book. It is one of those in which certain facts concerning accidents are mixed with certain theories on psychology, and comes to certain conclusions about safety. It is the kind of book that is awfully easy to believe if you want to believe it, but awfully hard to swallow if you are a skeptic.

The premises on which the book is based are essentially two:

1. Some people are accident prone, that is, under identical conditions, they tend to have more accidents than average.

2. Some psychiatrists believe that "most accidents are unconsciously intended."

From these are drawn essentially the following conclusions:

1. Practically all accidents are in part unconsciously intended, and among the really accident-prone people, almost all are unconsciously intended.

2. Besides inspections of vehicles, the only practical way to prevent any appreciable number of accidents is to do something to cause people to have a counter-accident tendency not to have accidents.

3. The best way to establish this counter-accident tendency is to penalize people directly for having *repeated accidents* by suspensions of driver's licenses. Accidents after the first suspension would result in longer suspensions.

This theory also applies to industrial accidents.

There is undoubtedly something in this. The question is, how much? To find out whether this general idea contains enough real truth, we would like to see it "assayed" in the crucible of a practical application; for example, in some commercial vehicle fleet.

Institute Comment On:

Driver Behavior and Road Conditions

(*Institute comment by Jordan Woods, Research and Development Division*)

TWO STIMULATING papers on the effect of road design characteristics on driver behavior were given at the First International Course in Traffic Engineering at the Hague, Netherlands, in June, 1953. One talk was by Hans Lorenz, chief public works engineer, Nuremburg, Western Germany, and the other by Prof. T. H. Van Wisselingh, Technical High School, Delft, Netherlands.

Lorenz treated two subjects:

1. The effect on driver behavior of straight stretches compared to curves, and

2. The use of "natural objects" for visual guidance and for keeping drivers mentally alert.

Stretches Versus Curves. The theme of the discussion by Lorenz was that all drivers have a natural tendency toward monotony, especially at high speeds and on straight stretches, and that curves and hills are needed to stimulate them. On "straights" the scenery is relatively unchanging, there is little variety, and the driver, who normally looks from side to side, fixes his gaze on the apparent end of the straight stretch and may even speed up somewhat to reach this "destination." On curves and hills, however, the scene constantly changes keeping the driver awake and alert. Lorenz further argues that a curve, not a straight line, may be the shortest driving distance between two points.

His contention that a curved road helps to relieve monotony will receive little argument. In fact it is reported that some engineers in this country are currently using this principal in road design. Perhaps even more important than the "changing scene" is that more *driving problems* are to be faced on curves and hills. Modern vehicles are so designed that the driver, particularly on straight stretches, has to devote little attention and effort to the actual operation of the vehicle. On a curve, he must turn the wheel, perhaps push the brake pedal and exert some effort to remain on his side of the road. The expenditure of even a little physical and mental effort may be enough to stimulate. Perhaps another stimulus to drivers on hills as well as curves is the anticipation of what lies beyond; not knowing exactly what to expect over the crest or around the bend.

Lorenz also speaks of the "need for rhythm" or so laying out roads that as many beauty spots, or outstanding scenes which lend variety to the landscape, as possible are passed. These spots refresh the driver, stir his imagination, and make him less susceptible to monotony. Lorenz objects to the use of bill boards for this purpose on the ground that they are not

beautiful and look "unnatural." Lorenz did not point out, however, that such beauty spots as well as bill boards may actually be hazardous in that they may tend to distract drivers, causing them to shift attention from the road for long periods of time.

Visual Guidance. Lorenz makes a good argument for the use of "natural objects" such as trees, hedges, hillsides, and the like for guiding drivers or warning them as to which way the road turns at hills and curves. Natural objects, he contends, are superior to artificial or man-made ones because:

1. They look natural. When used, drivers are not aware that they are being guided; they do not become immune to them as with artificial objects.

2. They are scenic. Drivers do not object to them as they do to bill boards, telephone poles, and the like.

3. They are cheaper to install and maintain.

In his paper, Van Wisselingh says that "it is often difficult on a road with trees alongside to tell whether the road ahead curves to the left or right" and recommends the use of delineators (light reflecting devices mounted at the side of the roadway to indicate alignment) or "catseyes" in the center of the road.

He also states that if too close together, (parallel to the roadway) trees create a tunnel effect so that drivers cannot see what is behind them. This he states tends to make drivers veer to the left on the roadway so they can see between the trees. Therefore he believes the trees should be located 40 to 50 feet apart.

Lorenz, in a discussion following the talks, replied to this, saying that to "thin-out" the trees might be even more hazardous if they were too close to the roadway. Van Wisselingh had pointed out that studies of "kerb shyness" had shown that drivers were affected by objects located as much as 6 feet off the roadway. Drivers veer to the left and back resulting in a slight zigzag course.

During the discussion following the talks, Lorenz seemed to contradict his previous stand by saying that the need for roadside trees is disappearing due to the fact that modern roads have many cuttings and embankments, making plantings unnecessary or impossible.

One factor not touched upon by Lorenz was that trees close to the roadside are likely to make accidents much worse when cars crash into them. The more trees present, of course, the more likely is the possibility of one being hit. Delineators are usually very lightly constructed so that when a car runs into one, it breaks off without causing damage to the vehicle. The contention that "natural objects" are cheaper to install and maintain is open to question. In hot and dry climates, for example, such as deserts, such plantings may not be at all practical.

Van Wisselingh's paper was mainly concerned with factors in roadway

design that cause drivers to deviate from staying "in the right hand lane and leaving it only to pass stationary vehicles or to overtake vehicles ahead and then only, of course, when this can be done without endangering other vehicles or limiting their freedom of movement." Two of these design characteristics, the "tunnel effect" and "kerb shyness," have previously been discussed. Other specific reasons for deviation are:

1. Excessive cambering of the roadway, or an excessive slope for runoff from center to side of the road. The idea is that drivers tend to slide off of such a road and therefore drive closer to the center.

2. Inadequate lane markings.

3. Inadequate marking of the edge of the road which makes drivers tend toward the center.

4. Inadequate roadway markings. Most, including painted lines, are difficult to see when it is dark and raining. Van Wisselingh prefers the American standard for marking "no passing" to the European.

5. Optical illusions. He argued strongly against different colored sections of the roadway because it is expensive and aesthetically unsatisfying. Roads repaired with materials of different colors may mislead drivers.

6. Wind. "If there are one or two buildings alongside an otherwise non-built up road, a car may be pulled to one side when passing the building." This would be caused by a sudden stoppage of wind pressure causing the vehicle to veer toward the building. It was recommended that trees be planted along the road at appropriate intervals to reduce the wind pressure gradually.

7. Inadequate superelevation may cause drivers to cut a left curve.

8. Absence of transition curves which would help ease the driver into the sharpest part of the curve. When there is no transition curve the driver is likely to swing too far left on a right turn and too far right on a left turn. ". . . the length of the transition curve should be such that the driver can apply the necessary braking to slow for the curve with out an excessive increase in centrifugal plus braking force; in other words, without any unpleasant sensation. On the other hand the transition length must not be so great that the driver cannot see a part of the curve proper as he approaches along a straight . . ." or he will be unaware that a sharper turn is ahead.

9. Inadequate curve radii. At intersections, curves should have a radius of 40 to 50 feet to allow long vehicles to turn safely.

All of the factors mentioned in Van Wisselingh's paper probably have some effect on behavior. Conclusions regarding two of the factors seem to be supported by some scientific evidence: the study of "kerb shyness," probably by the United States Bureau of Public Roads, and the one of lane markings which showed that, where lanes were marked, a larger percentage of vehicles kept to the right. That inadequate lane markings, roadway markings, superelevation, and curve radius are hazardous is

indisputable. However, no evidence is presented to show that drivers drift to the left to be able to see better between closely planted rows of trees, or that they drive to the left when the edge of the road is not indicated. The effect of wind on vehicles is probably greater in Europe than in this country where cars are heavier and some of them present little more wind area. Therefore, less effort is required to keep some of our vehicles on the road. Excessive cambering is thought to be a serious problem only in urban areas in this country; our newer rural roads are well engineered and have relatively smooth surfaces which permit smaller crestfalls or slopes for drainage of water. All of Van Wisselingh's contentions probably are correct to some degree, but before large amounts of time and money are expended in adopting some of his recommendations careful inquiry is needed to determine exactly what and how much effect the factors really have.

* * *

SEPTEMBER BONUS OFFER FOR TD&R SUBSCRIBERS

Single copies of two recent publications are available to *Traffic Digest & Review* subscribers without cost:

"Field Service," a pamphlet describing a coordinated program of assistance in traffic supervision for city, county, and state governments.

"1953 Uses of Chemical Tests for Intoxication," a report of the Committee on Tests for Intoxication of the National Safety Council.

For single copies of these publications, address a card or letter to: *Traffic Digest & Review*, 1704 Judson Ave., Evanston, Ill. All you have to say is "Bonus offer—September," and give your name and address.

Stress Economic Losses in Traffic Accidents

A spectacular 10-car pile-up recently near Rosaryville, Md., caused "at least $5,000" damage to the involved vehicles, according to an estimate of the investigating officer.

This extensive economic loss growing out of the accident made such an impression on all who heard and read about it that this thought may be worth keeping in mind:

In making statements to the press about serious traffic accidents, stress economic losses as well as personal injuries. It *may* make a few people more keenly aware of the importance of observing the traffic rules and regulations.

New Four-Year Training Series for AAMVA

A new four-year series of training courses for driver license examiners and driver improvement personnel will be conducted for the American Association of Motor Vehicle Administrators by the Traffic Institute of Northwestern University.

Beginning in 1955, the new series has been made possible by an additional grant from the Farmers Insurance Group Safety Foundation of Los Angeles, Calif.

In the first training program of this type, begun in 1951, annual courses for chief driver license examiners, sponsored by the AAMVA, were conducted at the Traffic Institute, supplemented by annual regional courses at universisites in each of the four AAMVA regions. This program also was financed by the FIG Safety Foundation.

The new four-year series for chief examiners will be a repeat, with refinements, of the first series. Thirteen chief examiners completed all four units of the first series, and a number of others have completed two and three units. In those cases where the chief examiners have completed the four units of instruction, their assistants will be eligible to participate in the new series.

This year the AAMVA is offering two-week courses in Post Licensing Control and Driver Improvement, at the University of California, San Francisco, Calif., Sept. 13-24; Northeastern University, Boston, Mass., Oct. 4-15; University of Alabama, Tuscaloosa, Ala., Nov. 1-12, and Northwestern University, Evanston, Ill., Nov. 29-Dec. 10.

Subjects to be emphasized include: Identification of the problem driver; balanced safety programs; reconstruction of an accident; records, reports, and summaries; analysis of driver behavior; organization and management of driver improvement programs; factors of highway transportation; enforcement of suspension and revocation; review examinations; interviews and hearings; handling of physical and mental cases.

"Traffic-accident prevention is the only justification for driver-licensing laws," AAMVA Executive Director L. S. Harris said in a recent communication to motor vehicle administrators. "The accident-prevention potentialities of licensing are materially impaired when the administration of such laws does not include adequate post-licensing procedures for the regulation and control of drivers (Driver Improvement). To require proof of qualifications through examinations and tests, and the payment of fees, for licenses and the privilege to drive is a useless burden, inconvenience and expense to the public if the licenses and privileges are not supplemented by driver-improvement procedures and functions. Driver improvement functions require trained personnel.

"Major improvements and progress have been made by departments which have participated in the training courses."

Deaths Down 7th Straight Month!

Motorists kept cool at the wheel as the weather got hot, and the nation's traffic accident death toll went down again in July—the seventh consecutive month in 1954 to bring fewer auto deaths.

The National Safety Council announced that the July death toll was 3,150—the largest total for any month this year, but still 3 per cent below the July, 1953, figure.

Thus at the end of seven months the death total stood at 19,450—down 5 per cent from the 20,500 figure for the corresponding period a year ago.

Ned H. Dearborn, Council president, said: "The improvement so far has been accomplished in the face of increasing travel, which proves that careful driving and conscientious effort by officials can save lives."

Motor vehicle travel was up 3 per cent over last year at the end of six months (July figures are not yet available), the Council reported. This resulted in a rate of 6.1 deaths per 100,000,000 miles—the lowest mileage death rate on record for the first half of a year.

Of 47 states reporting for July, 26 had fewer deaths than in the corresponding month of 1953, while 19 had more deaths and two reported no change.

For seven months, 30 of the 47 states had fewer deaths, 14 had more deaths and three no change. The 30 states with fewer deaths were:

Montana	−25%	New York	−12%
West Virginia	−22%	Mississippi	−12%
Maine	−22%	Ohio	−11%
Washington	−20%	Kansas	−10%
Massachusetts	−19%	Michigan	− 6%
Virginia	−19%	New Jersey	− 6%
North Carolina	−18%	Maryland	− 6%
Vermont	−18%	Arkansas	− 6%
South Carolina	−17%	Wyoming	− 6%
Connecticut	−17%	Pennsylvania	− 4%
South Dakota	−17%	Illinois	− 4%
North Dakota	−17%	Kentucky	− 4%
Utah	−15%	New Mexico	− 4%
California	−13%	Missouri	− 3%
Delaware	−13%	Louisiana	− 1%

Cities continued to report better records than the nation as a whole. In July cities had an 8 per cent improvement, compared with 3 per cent for the entire nation. For seven months, the city improvement was 12 per cent, compared with 5 per cent for the nation.

Of the 492 reporting cities, 196 had fewer deaths at the end of seven months than they had last year, 149 reported no change, and 147 had more deaths.

Of the 196 cities with fewer deaths, 22 have populations of more than 200,000. They are:

Norfolk, Va.	–62%	Baltimore, Md.	–25%
Newark, N. J.	–59%	Omaha, Neb.	–25%
Portland, Ore.	–49%	Oklahoma City, Okla.	–25%
Ft. Worth, Tex.	–46%	Pittsburgh, Pa.	–14%
San Antonio, Tex.	–44%	San Diego, Calif.	–13%
Honolulu, Hawaii	–43%	New York	–12%
Richmond, Va.	–43%	Cleveland, Ohio	–12%
Kansas City, Mo.	–42%	Detroit, Mich.	–10%
Columbus, Ohio	–33%	Cincinnati, Ohio	– 9%
Buffalo, N. Y.	–33%	Chicago, Ill.	– 8%
Toledo, Ohio	–26%	Washington, D.C.	– 5%

No traffic deaths n July were recorded by 374 of the 492 reporting cities. The largest was Portland, Ore. (373,600) with St. Paul, Minn. (311,300) and Oklahoma City, Okla. (243,500) next in size.

For seven months, 138 of the reporting cities maintained perfect records. The three largest were Richmond, Calif. (99,500); Fresno, Calif. (91,700), and East Orange, N. J. (79,300).

The three leading cities in each population group for seven months, ranked according to the number of deaths per 10,000 registered vehicles, were:

	Reg.Rate		*Reg. Rate*
Over 1,000,000 Population		200,000 - 350,000 Population	
Los Angeles, Calif.	3.2	Omaha, Neb.	1.1
Detroit, Mich	3.3	Honolulu, Hawaii	1.2
Chicago, Ill.	4.0	Oklahoma City, Okla.	1.2
750,000 - 1,000,000 Population		100,000 - 200,000 Population	
Baltimore, Md.	2.8	Berkeley, Calif.	0.4
San Francisco, Calif.	2.9	Little Rock, Ark.	0.4
Washington, D.C.	3.1	Erie, Pa.	0.6
500,000 - 750,000 Population		50,000 - 100,000 Population	
Buffalo, N. Y.	2.4	Fresno, Calif.	0.0
Pittsburgh, Pa.	2.5	Richmond, Calif.	0.0
Milwaukee, Wis.	2.6	Aurora, Ill.	0.0
350,000 - 500,000 Population		25,000 - 50,000 Population	
Portland, Ore.	1.4	Boise, Idaho	0.0
Newark, N. J.	1.5	Palo Alto, Calif.	0.0
Columbus, Ohio	1.8	Billings, Mont.	0.0

10,000 - 25,000 Population

Las Vegas, Nev.	0.0
Kenmore, N. Y.	0.0
Casper, Wyo.	0.0

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LEGAL ASPECTS OF "YIELD RIGHT-OF-WAY SIGNS"

DURING the past few years the "Yield Right-of-Way" sign* has been developed as an improved method of determining the right of precedence at intersections. It has now come into prominent use in many cities, and local traffic authorities are enthusiastic in reporting highly satisfactory experience with it. No increase in collisions is noted at intersections where "Yield" signs have been substituted for the conventional stop signs, and many report significant decreases following their installation.

"Yield" signs offer a more realistic and flexible means of control than the arbitrary restrictions of the familiar "complete stop" requirements which have been used for many purposes and at all types of intersections. Elimination of the stop, while still requiring drivers to yield to oncoming traffic, is proving effective as a means of preventing collisions and at the same time economical from the standpoint of the driver in eliminating many unnecessary stops, with their resultant slowing of cross traffic.

It also recognizes and encourages the native good judgment of a high percentage of drivers who will exercise proper caution and prudence without the absolute requirement of a preliminary "cessation of movement." In effect, except for the stop, it imposes the same duties upon the nonfavored driver as would govern him where a stop is commanded. It has the added effect of establishing the right-of-way in a definite, readily understandable way, thus avoiding the uncertainties involved in some other types of regulation as presently drawn. It has received wide public acceptance, an important factor in traffic law enforcement.

At the present time there is little or no uniformity in the use and application of the "Yield" sign, although this phase is now under consideration by the National Committee on Uniform Signs and Markings. In some cities it has been used to replace all stop signs other than those

*See *Traffic Review*, Winter 1951, and Summer 1952.

on state highways. In others it is placed at special locations, as on access roads to expressways or at intersections of one-way streets. Some are using it as warnings at high accident corners, usually as a safety measure and without legal sanction. In the latter case, of course, the prescribed right-of-way rules would apply and legally no prosecution would lie except for a violation of the law as written. Also in these instances there is danger of serious legal complications arising in civil damage suits arising out of collisions at such points, since, although the law commands the driver on the left to yield, the sign gives him the right to proceed.

Practically every state traffic code (Montana excepted) sets forth the so-called "basic rule" of right-of-way, i.e., when two vehicles approach or enter an intersection at approximately the same time the one on the left must yield to the one on the right. Exception is made (in all but 12 states) at intersections where stop signs are erected, at which points the driver who is required to stop must yield to those approaching on the favored street, regardless of direction. The same duty is imposed upon drivers of vehicles emerging from a private drive or alley and upon approaching a flashing red light.

It appears fundamental that no criminal prosecution may be had except for offenses clearly defined in the law. Likewise it is quite generally established that no municipality or other local authority may enact ordinances which conflict with applicable provisions of the state law. Thus where the state codes confer right-of-way upon the driver approaching from the right, it would seem incompetent for local authorities to transfer it to the other driver, either by ordinance or police regulation adopting the "Yield" sign. Thus, in the absence of enabling legislation, the sign and the duties it imposes are probably lacking in validity.

In view of these considerations it is necessary that the "Yield" sign be authorized by express state legislation in order to eliminate doubts as to its legality and to render enforcement thereof fully effective. This has now been done in at least three states, whose laws (all adopted in 1953) are here set forth as an indication of the direction such regulations are taking:

Act No. 854, adopted in Georgia 1953, sec. 72 (c): "When the intersection is designated by the Board, or the local authority having jurisdiction, as a "Yield Right-of-Way" intersection, the driver of a vehicle approaching the "Yield Right-of-Way" sign shall slow to a speed of not more than 10 miles per hour and yield right-of-way to all vehicles approaching from the right or left on the intersection roads or streets, which are so close as to constitute an immediate hazard. If a driver is involved in a collision at an intersection or interferes with the movement of other vehicles after driving past a "Yield Right-of-Way" sign, such collision or interference shall be deemed prima facie evidence of the driver's failure to yield right-of-way."

Revised Motor Vehicle Laws of Maine, (1953 Ed.) sec. 78: "The State highway commission and municipal officers, in their respective jurisdictions, may erect standard signs requiring vehicles, or drivers of vehicles, to "yield" the right-of-way at certain intersections, including approaches to through ways or previously designated "Stop" intersections, where it is expedient to allow traffic to move through or into the intersection at a reasonable speed for existing conditions of traffic and visibility, in no case greater than 15 miles per hour, yielding the right-of-way to all vehicles or pedestrians approaching from either direction on the intersecting street which are so close as to constitute an immediate hazard."

Uniform Act Regulating Traffic on Highways, Oklahoma, 1953, sec. 72: "The driver of a vehicle approaching a "Yield Right-of-Way" sign shall slow to a reasonable speed for existing conditions of traffic and visibility, yielding right-of-way to all vehicles on the intersecting street or highway which have entered the intersection or are so close as to constitute an immediate hazard."

The last sentence of the Georgia act is significant in that the occurrence of a collision at an intersection gives rise to a presumption that the driver who was required to yield did not do so. This feature appears also in a number of city ordinances patterned after that of Tulsa, Oklahoma (sec. 47(h)) where use of the sign originated. (See also Dallas ordinance sec. 6(d).) Such a presumption would constitute an effective aid in the prosecution of other types of right-of-way violations as well. It is a perfectly logical inference and one that certainly has a direct bearing upon the act required of the driver. If he had yielded there would have been no collision.

* * *

ELECTRIC DEVICE "CLEARS PATH" FOR EMERGENCY VEHICLES

Los Angeles is testing a device that changes the controls on traffic lights in the path of an emergency vehicle by making them turn red and stay that way until five seconds after the vehicle has cleared the crossing.

The first experiment involved equipping a hospital ambulance with the device, the American Municipal Association has learned. Other trials will be made before the city decides whether to install the equipment on all emergency vehicles.

The electronic traffic control system, designed by engineers of North American Aviation, switches green lights to red up to one-fourth of a mile ahead, thus stopping all traffic. The system consists of two parts: a small radio transmitter in the moving vehicle that passes the word to the second part, a midget, weather-proof receiver set on intersection traffic signals.

Duluth Police Win Two "Borderline" Cases

The term "borderline case" has taken on a new meaning for Duluth police traffic officers. And rightfully so.

Within the past 15 months, Duluth policemen have investigated two fatal accidents which occurred directly on the city boundary line. And in each case, Duluth officers have succeeded in placing statistical responsibility for the accidents outside Duluth's border. A total of 12 feet, eight inches, spelled the margin in the two mishaps.

Highpoint in the two investigations was the cooperation and assistance received by the police from the Duluth city engineering department. Working closely with Traffic Inspector Howard S. Loraas, the engineering staff pin-pointed city borderlines in direct relation to the occurrence of the accidents.

The first fatal accident occurred on March 23, 1953, as a Duluth driver, his wife and daughter, drove across the Arrowhead Toll Bridge, which connects Superior, Wis., and Duluth, Minn., over the St. Louis river. The car skidded on wet planking, jumped over a curb and plunged through a guardrail some 20 feet into the river. The man's wife drowned. (See page 6, June 1953 *Traffic Digest & Review*.)

Duluth accident investigators, aware the accident occurred very near the Minnesota-Wisconsin boundary line, were reluctant to accept statistical responsibility for the accident death without pin-pointing of the boundary line at the accident point. With the help of A. J. Griffith of the city engineering staff, the crucial borderline was located on the bridge. Duluth officers were then able to place the key event in the accident as occurring exactly six feet on the Wisconsin side of the line.

The decision by the Duluth department that the fatality should be charged to Wisconsin received the support of the Mortality Analysis Branch of the Public Health Service, and the Traffic Institute counsel.

In the second and most recent fatal accident, occurring last July 1, a man and wife were killed in a two-car collision—occurring again on another section of the city's borderline.

Again the Traffic Department called on the city engineering staff to pin-point the city's boundary in relation to the accident. After the borderline was located, police this time were able to place the key event in the accident as occurring six feet, eight inches, outside the city limits. The two fatalities were then marked chargeable to an adjoining village.

Needless to say, these two potentially controversial accidents, happening within a 15-month period, have left Duluth traffic officers with a real sense of appreciation for the city's engineering department. And it has convinced officers that survey instruments and a slide rule can play an important role in a city's traffic fatality record.

ABA Names Traffic Court Winners

Nineteen cities have been cited by the American Bar Association for improvement of their traffic courts and named winners of the 1954 Traffic Court Awards.

These cities are:

Group I (population over 1,000,000)—Second place, Chicago (no first-place award).

Group II (750,000 - 1,000,000)—First place, Washington, D. C.

Group III (500,000 - 750,000)—Honorable mention, Pittsburgh, Pa.

Group IV (350,000 - 500,000)—First place, Portland, Ore.; honorable mention, Denver, Colo.

Group V (200,000 - 350,000)—First place (tie), Akron, O., and Oklahoma City, Okla.

Group VI (100,000 - 200,000)—First place, Pasadena, Calif.; second, Chattanooga, Tenn.

Group VII (50,000 - 100,000)—First place, Dearborn, Mich.; second, Riverside, Calif., and honorable mention, Irvington, N. J.

Group VIII (25,000 - 50,000)—First place, Battle Creek, Mich.; second, Norwich, Conn, and honorable mention, Miami Beach, Fla. and Euclid, O.

Group IX (10,000 - 25,000)—First place, Freeport, N. Y.; second, Park Ridge, Ill., and honorable mention, Richland, Wash.

Other cities which have outstanding traffic courts, according to the judging committee, are Detroit, Los Angeles, Dayton, O., Toledo, O., Sacramanto, Calif., Grand Rapids, Mich., Evansville, Ind., Phoenix, Ariz., Youngstown, O., Kalamazoo, Mich, Inglewood, Fresno, and Stockton, Calif., Greenwich, Conn., Witley and Union Township, N. J., and Appleton, Wis.

The ABA's Traffic Court Program received 871 progress reports on traffic courts from cities with populations over 10,000. These courts processed 19,127,420 traffic violations during 1953.

* * *

TELL PARKING TIME ALLOWED BY COLOR

Danville, Va., paints the posts of its parking meters different colors to indicate length of permissible parking time.

Meter posts are painted a bright yellow in the vicinity of banks and other places where the maximum time allowed is 24 minutes. The one-hour posts are painted the standard aluminum color, and where more than one-hour parking is allowed, the color is green. Traffic Capt. E. G. McCain reports that Danville motorists seem to find the color idea helpful.

AAA Reports on Speed-Determining Sets

A total of 568 "radar" speed determining sets have been licensed by the Federal government to keep tab on motor vehicle speeds throughout the nation, the American Automobile Association has reported.

Ralph Thomas, AAA president, said that licenses for use of the devices have been issued by the Federal Communications Commission to state highway departments or local police departments in 42 states, the District of Columbia, and Hawaii.

"Most of these sets are being used for enforcement purposes," Mr. Thomas said. "Of the total, 496 or about 87 per cent, have been licensed solely for enforcement purposes. The remaining 72 sets are being used primarily for speed studies—information vitally needed in order to determine reasonable and proper speed limits—but occasionally are used for enforcement."

Mr. Thomas pointed out that the national motorists' organization is in favor of strict enforcement against excessive and accident causing speeds. But, he added, the question of reasonable speed has been a hotly-debated matter ever since the early days when limits were set at 8 mph in built-up areas and 12 mph on rural highways.

"The new electronic approach to determination of speeds could well be a boon to motorists if it is used to aid in posting reasonable speed limits and is concentrated on apprehending the relatively few who drive at excessive and dangerous speeds. It can become a curse if it is used for letter-of-the-law enforcement of rule-of-thumb and generally unrealistic speed limits and to scoop in every motorist who, while driving safely, may inadvertently exceed the speed limit by a mile or two."

AAA is hopeful that model legislation will be submitted to state legislatures at next year's sessions which will ensure that the accuracy of the devices be maintained and that temptation toward speed-trapping be removed by requiring that adequate warning notices be posted.

The question is sometimes asked whether there is any way of "jamming" the radar speed devices. After consultation with FCC technicians, AAA's reply is that, for all practical purposes, there is none. The devices, along with several others which do not require a Federal license, are highly accurate and motorists would be well advised to note posted speed limits and drive a few miles slower, since speedometers are not always accurate, particularly on older cars.

Meanwhile, AAA has learned, FCC is doing some checking on its own. Every one of the radar sets used to determine speeds is required by law to have a Federal license. But there seem to be many more signs warning of radar speed control than there are licenses, and FCC is out to find the answer why.

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TRAINING CALENDAR

(*All training courses will be conducted at the Traffic Institute, Evanston, Ill., unless otherwise indicated.*)

Sept. 13-24—Post Licensing Control and Driver Improvement (*Conducted for the American Association of Motor Vehicle Administrators*), University of California, San Francisco.
Sept 13-Oct. 1— Police Traffic Training Course.
Sept. 15-17—Traffic Safety Clinic for Newspapermen.
Sept. 20-Oct. 15—Military Vehicle Safety and Traffic Regulations (*for U. S. Army.*)
Sept. 23—Opening session, 1954-55 Traffic Police Administration Training Program.
Oct. 4-15—Post Licensing Control and Driver Improvement (*for AAMVA*). Northeastern University, Boston, Mass.
Oct. 4-22—Accident Investigation—Administration and Techniques.
Oct. 11-15—Traffic Court Conference (*Conducted with the ABA*), School of Law, Northwestern University, Chicago.
Oct. 14-16—Conference for Traffic Institute TPA graduates.
Oct. 18-Nov. 5—Traffic Law Enforcement.
Nov. 1-12—Post Licensing Control and Driver Improvement (*for AAMVA*), University of Alabama, Tuscaloosa, Ala.
Nov. 8-10—Traffic Court Conference (*Conducted with ABA*), University of Texas, Austin, Tex.
Nov. 8-24—Traffic Law for Police.
Nov.22-24—Traffic Court Conference (*Conducted with ABA*), Indianapolis, Ind.
Nov. 29-Dec. 10—Traffic Control—Devices and Methods for Police.
Nov. 29-Dec. 10—Post Licensing Control and Driver Improvement (*for AAMVA*).
Dec. 13-18—Chemical Tests for Intoxication.
Jan. 3-4—Principles of Organization.
Jan. 17-Feb. 14—Police Traffic Records.